

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Po Shin Francois CHIN et al.	§	Confirmation No.:	9520
		§		
I. A. Date:	January 20, 2004	§	Group Art Unit:	
		§		
Serial No.:	10/597,342	§	Examiner:	
		§		
Filed:	August 12, 2008	§	Atty. Docket No.:	2333-01100
		§		
For:	Method and Transmitter,	§		
	Receiver and Transceiver	§		
	Systems for Ultra Wideband	§		
	Communication	§		

**REQUEST FOR CORRECTED FILING RECEIPT**

Commissioner for Patents  
Application Assistance Unit  
PO Box 1450  
Alexandria, VA 22313-1450

Date: December 10, 2008

Sir or Madam:

Attached is a copy of the Official Filing Receipt received from the U.S. Patent and Trademark Office ("PTO") for the above-identified patent application of which issuance of a corrected Filing Receipt is respectfully requested. Please correct the first named inventor's name from "Francois Chin Po Shin" to - -Po Shin Francois CHIN- -. A marked-up copy of the Filing Receipt is attached. Copies of an Application Data Sheet 37 CFR 1.76, Declaration, and the first page of International Publication Number WO05/069506 (all of which were submitted to the PTO on August 12, 2008) accompany this statement and reflect the above-mentioned request.

The correction requested is due to the U.S. Patent and Trademark Office's error and it is believed that no fee is required. If any fees are inadvertently omitted or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to Conley Rose, P.C. Deposit Account No. 03-2769.

Respectfully submitted,

/Jonathan M. Harris/

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Jonathan M. Harris  
PTO Reg. No. 44,144  
CONLEY ROSE, P.C.  
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ATTORNEY FOR APPLICANTS



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GR/PART UNIT	FIL. FEE REC'D	ATTY. DOCKET NO.	TOT CLAIMS	IND CLAIMS
10/597,342	08/12/2008	2612	2180	2333-01100	35	5

CONFIRMATION NO. 9520

23505  
CONLEY ROSE, P.C.  
David A. Rose  
P. O. BOX 3267  
HOUSTON, TX 77253-3267

FILING RECEIPT



0C000000031605463

Date Mailed: 08/19/2008

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Applicant(s) **Po Shin Francois Chin**

~~Francois Chin Po Shin~~, Singapore, SINGAPORE;

Appukuttan Nair Saraswathy Amma Madhukumar, Singapore, SINGAPORE;

Assignment For Published Patent Application

AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH, Singapore, SG

Power of Attorney: The patent practitioners associated with Customer Number 23505

Domestic Priority data as claimed by applicant

This application is a 371 of PCT/SG2004/000022 01/20/2004

Foreign Applications

If Required, Foreign Filing License Granted: 08/15/2008

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 10/597,342**

Projected Publication Date: 11/27/2008

Non-Publication Request: No

Early Publication Request: No


Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	2333-01100
		Application Number	
Title of Invention	A Method And Transmitter, Receiver And Transceiver Systems For Ultra Wideband Communication		
<p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.</p> <p>This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p>			

**Secrecy Order 37 CFR 5.2**

<input type="checkbox"/>	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
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**Applicant Information:**

<b>Applicant 1</b>				
<b>Applicant Authority</b>		<input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117
				<input type="radio"/> Party of Interest under 35 U.S.C. 118
<b>Prefix</b>	<b>Given Name</b>	<b>Middle Name</b>	<b>Family Name</b>	<b>Suffix</b>
	Po	Shin Francois	Chin	
<b>Residence Information (Select One)</b> <input type="radio"/> US Residency <input checked="" type="radio"/> Non US Residency <input type="radio"/> Active US Military Service				
<b>City</b>	Singapore	<b>Country Of Residence<sup>i</sup></b>	SG	
<b>Citizenship under 37 CFR 1.41(b)<sup>i</sup></b>		SG		
<b>Mailing Address of Applicant:</b>				
<b>Address 1</b>	Blk 940 Hougang St 92 #13-19			
<b>Address 2</b>				
<b>City</b>	Singapore	<b>State/Province</b>		
<b>Postal Code</b>	530940	<b>Country<sup>i</sup></b>	SG	
<b>Applicant 2</b>				
<b>Applicant Authority</b>		<input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117
				<input type="radio"/> Party of Interest under 35 U.S.C. 118
<b>Prefix</b>	<b>Given Name</b>	<b>Middle Name</b>	<b>Family Name</b>	<b>Suffix</b>
	Appukuttan	Nair Saraswathy Amma	Madhukumar	
<b>Residence Information (Select One)</b> <input type="radio"/> US Residency <input checked="" type="radio"/> Non US Residency <input type="radio"/> Active US Military Service				
<b>City</b>	Singapore	<b>Country Of Residence<sup>i</sup></b>	SG	
<b>Citizenship under 37 CFR 1.41(b)<sup>i</sup></b>		IN		
<b>Mailing Address of Applicant:</b>				
<b>Address 1</b>	Blk 120 Jurong East St 13 #01-95			
<b>Address 2</b>				
<b>City</b>	Singapore	<b>State/Province</b>		
<b>Postal Code</b>	600120	<b>Country<sup>i</sup></b>	SG	
<p>All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the <b>Add</b> button.</p> <div style="text-align: right;"></div>				

**Correspondence Information:**

<p>Enter either Customer Number or complete the Correspondence Information section below.</p> <p>For further information see 37 CFR 1.33(a).</p>
<input type="checkbox"/> An Address is being provided for the correspondence information of this application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	2333-01100
		Application Number	
Title of Invention	A Method And Transmitter, Receiver And Transceiver Systems For Ultra Wideband Communication		
Customer Number	23505		
Email Address	jharris@conleyrose.com	<a href="#">Add Email</a>	<a href="#">Remove Email</a>

**Application Information:**

Title of the Invention	A Method And Transmitter, Receiver And Transceiver Systems For Ultra Wideband Communication		
Attorney Docket Number	2333-01100	Small Entity Status Claimed <input type="checkbox"/>	
Application Type	Nonprovisional		
Subject Matter			
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	17	Suggested Figure for Publication (if any)	1
<b>Publication Information:</b>			
<input type="checkbox"/> Request Early Publication (Fee required at time of Request 37 CFR 1.219)			
<input type="checkbox"/> Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not been and will not be the subject of an application filed in another country, or under a multilateral agreement, that requires publication at eighteen months after filing.			

**Representative Information:**

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> US Representative (37 CFR 11.9)
Customer Number	23505		

**Domestic Priority Information:**

This section allows for the applicant to claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c). Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status		<a href="#">Remove</a>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
Additional Domestic Priority Data may be generated within this form by selecting the <b>Add</b> button.			

**Foreign Priority Information:**

<b>Application Data Sheet 37 CFR 1.76</b>		Attorney Docket Number	2333-01100
		Application Number	
Title of Invention	A Method And Transmitter, Receiver And Transceiver Systems For Ultra Wideband Communication		

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

<a href="#">Remove</a>			
Application Number	Country <sup>i</sup>	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
PCT/SG2004/000022	SG		<input checked="" type="radio"/> Yes <input type="radio"/> No
Additional Foreign Priority Data may be generated within this form by selecting the <b>Add</b> button.			

### Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

<b>Assignee 1</b>			
If the Assignee is an Organization check here. <input checked="" type="checkbox"/>			
Organization Name	Agency For Science, Technology And Research		
<b>Mailing Address Information:</b>			
Address 1	20 Biopolis Way #07-01 Centros		
Address 2			
City	Singapore	State/Province	
Country <sup>i</sup>	SG	Postal Code	138668
Phone Number		Fax Number	
Email Address			
Additional Assignee Data may be generated within this form by selecting the <b>Add</b> button.			

### Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.					
Signature	/Jonathan M. Harris/			Date (YYYY-MM-DD)	2006-07-20
First Name	Jonathan	Last Name	Harris	Registration Number	44144

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

**Box No. VIII (iv) DECLARATION: INVENTORSHIP** (only for the purposes of the designation of the United States of America)  
*The declaration must conform to the following standardized wording provided for in Section 214; see Notes to Boxes Nos. VIII, VIII (i) to (iv) (in general) and the specific Notes to Box No. VIII (iv). If this Box is not used, this sheet should not be included in the request.*

**Declaration of inventorship (Rules 4.17(iv) and 51bis.1(a)(iv))  
 for the purposes of the designation of the United States of America:**

I hereby declare that I believe I am the original, first and sole (if only one inventor is listed below) or joint (if more than one inventor is listed below) inventor of the subject matter which is claimed and for which a patent is sought.

This declaration is directed to the international application of which it forms a part (if filing declaration with application).

This declaration is directed to international application No. PCT/SG2004/000022 (if furnishing declaration pursuant to Rule 26ter).

I hereby declare that my residence, mailing address, and citizenship are as stated next to my name.

I hereby state that I have reviewed and understand the contents of the above-identified international application, including the claims of said application. I have identified in the request of said application, in compliance with PCT Rule 4.10, any claim to foreign priority, and I have identified below, under the heading "Prior Applications," by application number, country or Member of the World Trade Organization, day, month and year of filing, any application for a patent or inventor's certificate filed in a country other than the United States of America, including any PCT international application designating at least one country other than the United States of America, having a filing date before that of the application on which foreign priority is claimed.

Prior Applications: .....

I hereby acknowledge the duty to disclose information that is known by me to be material to patentability as defined by 37 C.F.R. § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the PCT international filing date of the continuation-in-part application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name: CHIN Po Shin, Francois

Residence: Singapore  
 (city and either US state, if applicable, or country)

Mailing Address: Blk 940 Hougang St 92 #13-19, Singapore 530940

Citizenship: Singapore

Inventor's Signature: [Signature]  
 (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)

Date: 04.10.2004  
 (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)

Name: MADHUKUMAR Appukuttan Nair Saraswathy Amma

Residence: Singapore  
 (city and either US state, if applicable, or country)

Mailing Address: Blk 120 Jurong East St 13 #01-95, Singapore 600120

Citizenship: India

Inventor's Signature: [Signature]  
 (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)

Date: 04 March 2004  
 (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)

☐ This declaration is continued on the following sheet, "Continuation of Box No. VIII (iv)".

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
28 July 2005 (28.07.2005)

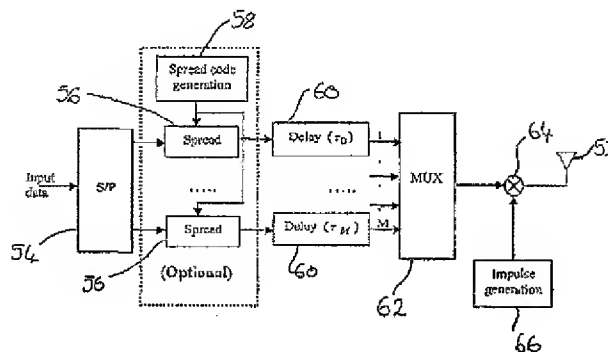
PCT

(10) International Publication Number  
**WO 2005/069506 A1**

- (51) International Patent Classification<sup>7</sup>: H04B 7/04, H04L 27/02
- (21) International Application Number: PCT/SG2004/000022
- (22) International Filing Date: 20 January 2004 (20.01.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (71) Applicant (for all designated States except US): AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH [SG/SG]; 20 Biopolis Way, #07-01 Centros, Singapore 138668 (SG).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): CHIN, Po Shin, Francois [SG/SG]; Blk 940 Hougang St 92 #13-19, Singapore 530940 (SG). MADHUKUMAR, Appukuttan, Nair, Saraswathy, Amma [IN/SG]; Blk 120 Jurong East St 13 #01-95, Singapore 600120 (SG).
- (74) Agent: WATKIN, Timothy, Lawrence, Harvey; Lloyd Wise, Tanjong Pagar, P.O. Box 636, Singapore 910816 (SG).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SI, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Declaration under Rule 4.17:  
— of inventorship (Rule 4.17(iv)) for US only

[Continued on next page]

(54) Title: A METHOD AND TRANSMITTER, RECEIVER AND TRANSCEIVER SYSTEMS FOR ULTRA WIDEBAND COMMUNICATION



(57) Abstract: A transmitter for transmitting data as a pulsed ultrawide band signal comprises a serial-to-parallel converter (54) for converting the signal to be transmitted to a parallel sequence, a modulator (64) to convert the parallel sequence to a parallel stream of impulse trains. A delay unit (60) delays the parallel streams of impulse trains by different time intervals within the same pulse repetition period. The delayed pulse streams are combined so that the pulses in the streams occur within the pulse repetition period of a single pulse. An antenna (52) is used to transmit the combined signal. A receiver comprises an antenna (72) for receiving a transmitted pulsed ultrawide band signal having two or more interleaved pulse trains with equal pulse repetition periods, the pulse repetition period being greater than the pulse spacing in the interleaved signal. A matched filter filters the received signal, the filter being matched to the pulse shape of the received signal. A low-pass filter (74) is coupled to the matched filter and an analogue-to-digital converter (76) is coupled thereto. A serial-to-parallel conversion unit (78) is coupled to the converter (76) to sample the digital signal at a rate greater than the pulse repetition frequency of the received signal. A signal processor (80) is coupled to the serial-to-parallel conversion unit (78) to produce an output signal representative of the received data.